REMARKS

Claims 12 and 14 have been amended to reflect the proper identifier after its claim number. It is respectfully requested that these claims 12 and 14 be considered a part of the preliminary amendment filed June 30, 2005. For the Examiner's convenience attached is a courtesy copy of all of the claims filed in the preliminary amendment.

CONCLUSION

Applicant respectfully submits that the instant application is in good and proper order for allowance and early notification to this effect is solicited. No fees are believed to be due in connection with the filing of this paper, however, should any fees be deemed necessary, the Commissioner is hereby authorized to deduct any such fees from Deposit Account No. 501662.

Respectfully submitted,

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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for isolating one or more T cells that cross-react with a self-antigen and a foreign antigen comprising:

(a) incubating a sample comprising T cells with an antigen that comprises an epitope present in the self-antigen and the foreign antigen, and **wherein said sample** optionally **comprises** one or more autoantigens; and

(b) isolating the one or more cross-reactive T cells by cloning or direct expansion,

wherein the self-antigen is myelin basic protein ~~**or a fragment, variant, analog, homolog or derivative thereof**~~, and wherein the foreign antigen is human herpesvirus-6 U24 ~~**or a fragment, variant, analog, homolog or derivative thereof**~~.

2. (Currently Amended) The method of claim 1, wherein the self-antigen comprises a sequence of residues 96-102 of myelin basic protein[[,]] **or** residues 93-105 of myelin basic protein~~, or a fragment, variant, analog, homolog or derivative thereof~~, and wherein the foreign antigen comprises a sequence of residues 4-10 of human herpesvirus-6 U24, residues 1-13 of human herpesvirus-6 U24~~, or a fragment, variant, analog, homolog or derivative thereof~~.

3. (Currently Amended) The method of claim[[s]] 1 **[[or 2]]**, wherein the autoantigen is selected from the group consisting of myelin basic protein, proteolipid protein, myelin oligodendrocyte glycoprotein, collagen type II peptides, heat shock protein, MAGE, PSA, CA125, GAD protein, and tumor associated antigen.

4. (Currently Amended) The method of claim[[s]] 1 **[[or 2]]**, wherein the autoantigen comprises an immunodominant epitope of a member selected from the group consisting of myelin basic protein, proteolipid protein, myelin oligodendrocyte glycoprotein, collagen type II peptides, heat shock protein, MAGE, PSA, CA125, GAD protein, and tumor associated antigen.

5. (Original) The method of claim 4, wherein said immunodominant epitope is selected from the group consisting of residues 83-99 of myelin basic protein and residues 151-170 of myelin basic protein.

6. (Currently Amended) ~~**A method for isolating one or more T cells that cross-react with an self-antigen and a foreign antigen**~~ **The method of claim 1, further** comprising[[:]]

~~(a) incubating a sample comprising T cells with an antigen that comprises an epitope present in the self antigen and the foreign antigen, and optionally one or more autoantigens; and~~

~~(b)~~ selecting one or more T cells that express one or more first markers selected from the group consisting of CD69, CD4, CD25, CD36 and HLADR and one or more second markers selected from the group consisting of IL-2, IFNγ, TNFα, IL5, IL-10 and IL-13.

~~wherein the self-antigen is myelin basic protein or a fragment, variant, analog, homolog or derivative thereof, and wherein the foreign antigen is human herpesvirus-6 U24 or a fragment, variant, analog, homolog or derivative thereof.~~

7. (Currently Amended) The method of claim 6, wherein the self-antigen comprises a sequence of residues 96-102 of myelin basic protein[[,]] **or** residues 93-105 of myelin basic protein, ~~or a fragment, variant, analog, homolog or derivative thereof,~~ and wherein the foreign antigen comprises a sequence of residues 4-10 of human herpesvirus-6 U24, residues 1-13 of human herpesvirus-6 U24~~, or a fragment, variant, analog, homolog or derivative thereof~~.

8. (Currently Amended) The method of claim[[s]] 6 **[[or 7]]**, wherein the autoantigen is selected from the group consisting of myelin basic protein, proteolipid protein, myelin oligodendrocyte glycoprotein, collagen type II peptides, heat shock protein, MAGE, PSA, CA125, GAD protein, and tumor associated antigen.

9. (Cancelled)

10. (Cancelled)

11. (Original) The method of claim 7, wherein the cells expressing said first and said second markers are selected using antibodies to said first and second markers respectively, or optionally a bi-specific antibody which binds both first and second markers in combination with an antibody which binds said second marker.

12. (Original) The method of claim 11, wherein one or more of said antibodies is fluorescently labeled **and wherein said T cell is selected by fluorescent activated cell sorting**.

13. (Cancelled)

14. (Original) The method of claim 11, wherein said first antibody is conjugated to a magnetic microbead **and wherein said T cell is selected by magnetic activated cell sorting**.

15. (Cancelled)

16. (Currently Amended) A composition comprising one or more T cells that cross-react with a self antigen and a foreign antigen,

wherein the self-antigen is myelin basic protein ~~or a fragment, variant, analog, homolog or derivative thereof~~,

wherein the foreign antigen is human herpesvirus-6 U24 ~~or a fragment, variant, analog, homolog or derivative thereof, and~~

and wherein the cross-reacting T cells are enriched with respect to other T cells that react with the self-antigen.

17. (Currently Amended) The composition of claim 16, wherein the self-antigen comprises a sequence of residues 96-102 of myelin basic protein[[,]] **or** residues 93-105 of myelin basic protein, ~~or a fragment, variant, analog, homolog or derivative thereof,~~ and wherein the foreign antigen comprises a sequence of residues 4-10 of human herpesvirus-6 U24, residues 1-13 of human herpesvirus-6 U24~~, or a fragment, variant, analog, homolog or derivative thereof~~.

18. (Currently Amended) A method for quantifying the number of T cells in a sample that cross-react with an self-antigen and a foreign antigen comprising:

(a) incubating a sample comprising T cells with an antigen that comprises an epitope present in the self-antigen and the foreign antigen, and **wherein said sample** optionally **comprises** one or more autoantigens;

(b) selecting one or more T cells that express one or more first markers selected from the group consisting of CD69, CD4, CD25, CD36 and HLADR and one or more second markers selected from the group consisting of IL-2, IFNγ, TNFα, IL5, IL-10 and IL-13; and

(c) determining the number of T cells selected by step (b).

wherein the self-antigen is myelin basic protein ~~or a fragment, variant, analog, homolog or derivative thereof~~, and wherein the foreign antigen is human herpesvirus-6 U24~~ or a fragment, variant, analog, homolog or derivative thereof~~.

19. (Currently Amended) A method for diagnosing an autoimmune disease in a patient, comprising:

(a) quantifying the number of cross-reactive T cells according to the method of claim 18; ~~incubating a sample derived from said patient comprising T cells with an antigen that comprises an epitope present in a self-antigen and a foreign antigen, and optionally one or more autoantigens;~~ and

(b) comparing the number of cross-reactive T cells and optionally other autoreactive T cells to a control ~~selecting one or more T cells that express one or more first markers selected from the group consisting of CD69, CD4, CD25, CD36 and HLADR and one or more second markers selected from the group consisting of IL-2, IFNγ, TNFα, IL5, IL-10 and IL-13~~.

~~wherein the self-antigen is myelin basic protein or a fragment, variant, analog, homolog or derivative thereof, and wherein the foreign antigen is human herpesvirus-6 U24 or a fragment, variant, analog, homolog or derivative thereof.~~

20. (Currently Amended) A method for monitoring an autoimmune disease in a patient, comprising:

(a) quantifying the number of cross-reactive T cells according to the method of claim 18; and ~~incubating a sample derived from said patient comprising T cells with an antigen that comprises an epitope present in a self-antigen and a foreign antigen, and optionally one or more autoantigens;~~

(b) comparing the number of cross-reactive T cells and optionally other autoreactive T cells to a control. ~~selecting one or more T cells that express one or more first markers selected from the group consisting of CD69, CD4, CD25, CD36 and HLADR and one or more second markers selected from the group consisting of IL-2, IFNγ, TNFα, IL5, IL-10 and IL-13~~.

(c) ~~determining the number of T cells selected by step (b),~~

~~wherein the self-antigen is myelin basic protein or a fragment, variant, analog, homolog or derivative thereof, and wherein the foreign antigen is human herpesvirus-6 U24 or a fragment, variant, analog, homolog or derivative thereof.~~

21. (Currently Amended) A method for treating an autoimmune disease in a patient, comprising[[:]] **administering the composition of claim 16 to a patient in need thereof.**

~~(a) incubating a sample derived from said patient comprising T cells with an antigen that comprises an epitope present in a self-antigen and a foreign antigen, and optionally one or more autoantigens;~~

~~(b) selecting one or more T cells that express one or more first markers selected from the group consisting of CD69, CD4, CD25, CD36 and HLADR and one or more second markers selected from the group consisting of IL-2, IFNγ, TNFα, IL5, IL-10 and IL-13;~~

~~(c) inactivating the T cells selected by step (b); and~~

~~(d) administering the T cells inactivated by step (c) to said patient,~~

~~wherein the self-antigen is myelin basic protein or a fragment, variant, analog, homolog or derivative thereof, and wherein the foreign antigen is human herpesvirus-6 U24 or a fragment, variant, analog, homolog or derivative thereof.~~

22. (Currently Amended) A method for producing **the composition of claim 16** ~~a composition for the treatment of an autoimmune disease in a patient~~, comprising:

(a) incubating a sample derived from said patient comprising T cells with an antigen that comprises an epitope present in a self-antigen and a foreign antigen, **wherein said sample** optionally **comprises** one or more autoantigens;

(b) selecting one or more T cells that express one or more first markers selected from the group consisting of CD69, CD4, CD25, CD36 and HLADR and one or more second markers selected from the group consisting of IL-2, IFNγ, TNFα, IL5, IL-10 and IL-13; and

(c) inactivating the T cells selected by step (b),

wherein the self-antigen is myelin basic protein ~~or a fragment, variant, analog, homolog or derivative thereof~~, and wherein the foreign antigen is human herpesvirus-6 U24 ~~or a fragment, variant, analog, homolog or derivative thereof~~.

23. (Currently Amended) The method of claims ~~21 or~~ 22 further comprising expanding the number of T cells selected in step (b).

24. (Cancelled)

25. (Currently Amended) A method for isolating a nucleic acid encoding a T cell receptor, or a portion thereof, wherein said T cell receptor is specific for a self-antigen and a foreign antigen, comprising:

(a) **isolating one or more T cells according to the method of claim 6; and** ~~**incubating a sample comprising T cells with an antigen that comprises an epitope present in the self-antigen and the foreign antigen;**~~

~~**(b) selecting one or more T cells that express one or more first markers selected from the group consisting of CD69, CD4, CD25, CD36 and HLADR and one or more second markers selected from the group consisting of IL-2, IFNγ, TNFα, IL5, IL-10 and IL-13; and**~~

~~(c)~~ **(b)** amplifying the nucleic acid encoding said T cell receptor from a T cell isolated by step (~~a~~**b**) using at least one first primer specific for the variable region of the T cell receptor gene and a second primer specific for the constant region of the T cell receptor gene,

~~**wherein the self-antigen is myelin basic protein or a fragment, variant, analog, homolog or derivative thereof, and wherein the foreign antigen is human herpesvirus-6 U24 or a fragment, variant, analog, homolog or derivative thereof.**~~

26. (Cancelled)

27. (Cancelled)